CLAIMS

What is claimed is:

1.   A method, comprising:

generating a time-stamp information cell at a first location;

transmitting the time-stamp information cell to a second location via a network link; and

receiving the time-stamp information cell at the second location.

2.   The method of claim 1, further comprising synchronizing the first location and the second location with a coordinated time.

3.   The method of claim 1, wherein generating the time-stamp information cell includes generating the time-stamp information cell utilizing a time-stamp generator.

4.   The method of claim 1, wherein generating the time-stamp information cell includes generating a 20-bit time-stamp information cell.

5.   The method of claim 1, wherein generating the time-stamp information cell at a first location includes generating a time-stamp information cell at a first access multiplexer located at a beginning of the network link.

6.   The method of claim 5, wherein receiving the time-stamp information cell at a second location includes receiving a time-stamp information cell at a second access multiplexer located at an end of the network link.

7.   The method of claim 1, wherein transmitting the time-stamp information cell to the second location via the network link includes transmitting the time-stamp information cell to the second location via an asynchronous transfer mode network link.

8.   The method of claim 1, wherein transmitting the time-stamp information cell includes transmitting the time-stamp information cell mapped with a same virtual path identification as a data cell.

9.   The method of claim 1, wherein transmitting the time-stamp information cell includes transmitting the time-stamp information cell mapped with a same virtual channel identification as the data cell.

10.   The method of claim 1, further comprising:
        re-transmitting the time-stamp information cell back to the first location via the
                network link; and
        receiving the time-stamp information cell at the first location.

11.   The method of claim 10, wherein re-transmitting the time-stamp information cell includes adding a last received sequence number to the time-stamp information cell and transmitting the time-stamp information cell.

12.   The method of claim 10, wherein re-transmitting the time-stamp information cell includes adding a last received sequence number associated time-stamp to the time-stamp information cell and transmitting the time-stamp information cell.

13.   The method of claim 10, wherein re-transmitting the time-stamp information cell includes transmitting the time-stamp information cell mapped with the same virtual path identification as the data cell.

14.   The method of claim 10, wherein re-transmitting the time-stamp information cell includes transmitting the time-stamp information cell mapped with the same virtual channel identification as the data cell.

15.   The method of claim 1, wherein generating a time-stamp information cell includes:

providing a cell containing a plurality of octets;

utilizing a first set of the plurality of octets to hold an identifier;

utilizing a second set of the plurality of octets to hold a transmit sequence number;

utilizing a third set of the plurality of octets to hold a transmit time-stamp;

utilizing a fourth set of the plurality of octets to hold a last received sequence number;
and

utilizing a fifth set of the plurality of octets to hold a last received sequence number
associated time-stamp.

16.   The method of claim 1, further comprising:

calculating a time-delay utilizing the time-stamp information cell;

building a time-delay distribution array;

calculating a time-delay variance utilizing the time-delay distribution array; and

calculating a cell-transfer rate utilizing a time-delay distribution array.

17.   The method of claim 16, wherein calculating includes estimating.

18.   A computer program, comprising computer or machine readable program elements
translatable for implementing the method of claim 1.

19.   An apparatus for performing the method of claim 1.

20.   An electromagnetic waveform produced by the method of claim 1.

21.   An electronic media, comprising a program for performing the method of claim 1.

22.   An apparatus, comprising an asynchronous transfer mode network including a time
delay information cell generator.

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23.   The apparatus of claim 22, further comprising a memory containing a plurality of time delay information cells.

24.   The apparatus of claim 22, wherein the plurality of time delay information cells include a copy of a transmitted time delay-information cell.

25.   The apparatus of claim 22, wherein the plurality of time delay information cells include a received time delay information cell.

26.   The apparatus of claim 22, wherein the time information cell generator includes:
        a main clock;
        a set of counters coupled to the main clock;
        a synchronization signal source coupled to the set of counters; and
        a time-stamp signal coupled to the set of counters.

27.   The apparatus of claim 26, wherein the set of counters includes a plurality of counters that are serially cascaded.

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